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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,305	04/13/2004	Richard Schenker	10559/927001/P18716	5971

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EXAMINER
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CHOI, WILLIAM C

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

—A

<b>Office Action Summary</b>	<b>Application No.</b> 10/824,305	<b>Applicant(s)</b> SCHENKER, RICHARD	
	<b>Examiner</b> William C. Choi	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10,12,14-17,24,25,29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10,12 and 17 is/are allowed.
- 6) ☒ Claim(s) 14-16,24,25 and 29 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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The final rejection, filed on 10/27/2005 has been withdrawn in view of the newly discovered reference(s) to Silverstein et al (U.S. 2003/0072079 A1), Wood et al (U.S. 6,885,782) and Niki et al (U.S. 5,633, 959). Rejections based on the newly cited reference(s) follow.

## DETAILED ACTION

### *Claim Objections*

Claim 30 is objected to because of the following informalities: in line 13, "stress;" should be changed to "stress; and". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, applicant discloses in lines 10-11, the limitation wherein "the parameter is related to the second polarization state", but has not previously disclosed "a parameter". Applicant further discloses in lines 15-16, wherein "the parameter is a parameter based on the pattern" introducing unclarity as to the relationship of the parameter to the invention.

Furthermore, the limitations set forth in lines 8-11, "transmitting light of a second polarization state different than the first polarization state from the polarization modulator wherein the parameter is related to the second polarization state" correspond to originally filed claim 24, which itself was dependent from claim 22, as was claim 25. Therefore, for purposes of examination, these limitations were omitted from claim 25 since both claims 24 and 25 originally were respectively both dependent from claim 22 and the omission of these limitations clear up the unclarity issue.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Niki et al.

In regard to claim 29, Niki et al discloses a polarization control apparatus, comprising: a polarization modulator configured to change light which is applied thereto from a first polarization profile to a second polarization profile different than the first polarization profile (column 2, lines 29-38); a stress modulator in communication with the polarization modulator, the stress modulator to apply stress to the polarization modulator (column 2, lines 32-38); a controller configured to receive a signal based on a parameter related to one or more characteristics of the transmitted light, the controller in communication with the stress modulator and configured to control the stress (column 2,

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lines 35-38); and a light sensor positioned to receive at least a portion of the transmitted light in communication with the controller wherein the signal based on the parameter is a signal from the light sensor; wherein the parameter is based on the second different polarization profile (column 2, lines 35-38).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Silverstein et al.

In regard to claims 14-16, Silverstein et al discloses a polarization modulator configured to change light which is applied thereto form a first polarization profile to a second polarization profile different than the first polarization profile (page 6, section [0045], lines 4-8); and a stress modulator in communication with the polarization modulator, the stress modulator to apply stress to the polarization modulator, wherein the stress modulator is configured to apply stress by heating the polarization modulator, which inherently would also include expansion (i.e. from heating) and cooling (i.e. from removal of illumination) (page 6, section [0045], lines 8-11, re: high intensity illumination). The limitation of the lithography system in the preamble was not accorded

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any patentable weight since it merely recites the intended use of a structure, and because the body of the claim does not depend on the preamble for completeness but, instead, the structural limitations are able to stand alone.

Claims 24 is rejected under 35 U.S.C. 102(e) as being anticipated by Wood et al.

In regard to claim 24, Wood et al discloses a method of modifying the polarization of light (column 3, line 52 – column 4, line 21, Figure 1), comprising: applying stress to a polarization modulator (column 4, lines 9-14, Figure 1, “14”); receiving light of a first polarization state in the polarization modulator and modifying the polarization of light within the polarization modulator (column 4, lines 14-16); detecting a parameter related to one or more characteristics of the light (column 4, lines 16-21, re: force); and transmitting light of a second polarization state different than the first polarization state from the polarization modulator (column 4, lines 14-16), wherein the parameter is related to the second polarization state (column 4, lines 16-21, re: force).

#### ***Allowable Subject Matter***

Claims 10, 12 and 17 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 10: a lithography system comprising a polarization and a stress modulator as claimed, specifically wherein the stress modulator is configured to apply stress to an outer surface of the polarization modulator to obtain a polarization profile at an imaging plane wherein the polarization profile exhibits substantially azimuthal symmetry.

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The prior art fails to teach a combination of all the claimed features as presented in claim 12: a lithography system comprising a polarization and a stress modulator, wherein the stress modulator is configured to apply stress to the polarization modulator as claimed, specifically wherein the lithography system comprises an immersion lithography system.

The prior art fails to teach a combination of all the claimed features as presented in claim 17: a lithography system comprising a polarization and a stress modulator, wherein the stress modulator is configured to apply stress to the polarization modulator as claimed, specifically further comprising another polarization and another stress modulator, wherein the another stress modulator is configured to apply stress to the another polarization modulator.

Claim 25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action, **taking into account the assumption made in the examination of the claims.**

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 25: a method of modifying the polarization of light comprising applying stress to a polarization modulator and modifying the polarization of light within the polarization modulator as claimed, specifically further comprising detecting a parameter related to one or more characteristics of the light and forming a pattern on a substrate using the transmitted light, wherein the parameter is based on the pattern.

Claim 30 would be allowable if rewritten or amended to overcome the objection(s), set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 30: a polarization control apparatus comprising a polarization and a stress modulator and a controller configured to receive a signal based on a parameter related to one or more characteristics of the transmitted light and is configured to control the stress as claimed, specifically wherein said apparatus further comprises a substrate including a pattern formed using the transmitted light and wherein the parameter is based on the pattern.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.



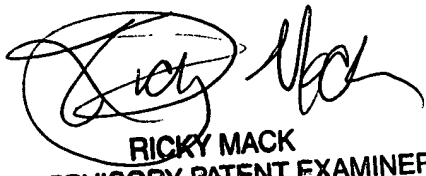
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Status information for unpublished applications is available through Private PAIR only.

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W.C

William Choi  
Patent Examiner  
Art Unit 2873  
March 8, 2006



RICKY MACK  
SUPERVISORY PATENT EXAMINER